Rumen protein degradation and nitrogen fractions in legume leaves and stems. (C06-moser150223-Poster)

Authors:

- B.L.Terrell* - *University of Nebraska-Lincoln*
- L.E.Moser - *University of Nebraska-Lincoln*
- W.H.Schacht - *University of Nebraska-Lincoln*
- T.J.Klopfenstein - *University of Nebraska-Lincoln*

Abstract:

Nitrogen (N) fractions are important in evaluating rumen degradable intake protein (DIP) and undegradable intake protein (UIP) of forages. The purpose of this study was to determine differences in N fractions of whole-plant samples of four legumes either lyophilized or oven-dried and to compare N fraction content and UIP of leaves and stems of five legumes. All legumes were field grown and harvested samples were analyzed for N fractions and UIP content in situ. Lyophilized samples were higher in fractions B1 (buffer-soluble protein) and B2 (buffer-insoluble protein, soluble in NDF), but oven-dried samples were higher in fraction B3 (NDF-soluble protein). Oven drying shifted N from fractions B1 and B2 to fraction B3. Leaves were higher in fraction B2 and tended to be higher in fraction B1. Stems were higher in fraction A (non-protein nitrogen), B3, and C (ADF-insoluble protein). Stems for all legumes were higher in UIP than the leaves except for tannin-containing Korean lespedeza. Leaf : stem ratio is the principal factor affecting UIP levels in diets of ruminants consuming legumes.

Corresponding Author Information:

Lowell Moser
University of Nebraska-Lincoln
Department of Agronomy and Horticulture
Box 830915
Lincoln, NE 68583-0915

phone: (402) 472-1558
fax: (402) 472-7904
e-mail: lmoser1@unl.edu

Presentation Information:

Presentation Date: Wednesday, November 13, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 1124

Keywords:
Legumes, Undegradable intake protein, Degradable intake protein, Nitrogen fractions